



## Course Syllabus (Academic Year 2020)

School of Interdisciplinary Studies, Kanchanaburi Campus, Mahidol University

1. **Course No. and Title** : KAFT 479 Dairy and Dairy Product Technology  
**Credit (study hours)** : 3 (3-0-6)
2. **Program Name** : Bachelor of Science in Food Technology
3. **Course Module** : Specific Core Course, Elective Subject  
**Pre/co-requisite** : -
4. **Class Semester** : 1<sup>st</sup> Semester Academic Year 2020
5. **Class Schedule & Venue** : Thursday, 13.00-16.00, **Online via Webex (Jul, 1 – Oct, 31 2020) (week 1-18)**
6. **Class Coordinator** : Dr. Plengsuree Thiengnoi  
 Room : L222                      Email : Plengsuree.thi@mahidol.ac.th

### 7. Course Description

Characteristics of milk and milk products. The production and processing of various product types in dairy industry

### 8. Course Objectives / Course Learning Outcomes (CLOs)

No.	Objectives / CLOs	Expected Skills / Knowledge			PLOs
		Specific	Generic	Knowledge	
8.1	Students will be able to explain physical, chemical and microbiological characteristics of raw material, dairy and dairy products including dairy processing.	S1, S2	G1	K2, K3	1
8.2	Students will be able to explain the principle of dairy and dairy products processing for industrial scale.	S3	G1, G3	K3, K5, K9	1
8.3	Students will be able to explain the principles and factors that affect the quality of dairy and dairy products.	S5	G2, G4	K2, K16	2
8.4	Demonstrate the use of communication skill and show cooperative teams	-	G10, G13	K25	5
			G14-G17	-	6

## 9. Class Instructor List

9.1 Name : Dr. Plengsuree Thiengnoi (PT)	Email : plengsuree.thi@mahidol.ac.th
9.2 Name : Dr. Jarupat Luecha (JL)	Email : jarupat.lue@mahidol.ac.th
9.3 Name : Dr. Natteewan Udomsilp (NU)	Email : paeng888@hotmail.com
9.4 Name : Dr. Renu Yenket (RYK)	Email : ryenket@gmail.com
9.5 Name : Aj. Ronnachai Yoddumnern (RY)	Email : ronnachai_y@hotmail.com
9.6 Name : Dr. Sarawut Taksinoros, D.V.M. (ST)	Faculty of Veterinary Science, Mahidol University

## 10. Course Outline

Week	Date	Contents	CLOs	Instructor's Names
1	2/7/20	Course introduction	8.1	PT
2	9/7/20	Introduction to milk and dairy products	8.1, 8.2, 8.3	PT
3	16/7/20	Milk secretion and collection	8.1, 8.2, 8.3	JL
4	23/7/20	Dairy microbiology, Starter culture, Probiotic, Prebiotic	8.1, 8.2, 8.3	NU
5	30/7/20	Raw milk production and standard	8.1, 8.2, 8.3	ST
6	6/8/20	Ice cream / Cream and Butter	8.1, 8.2, 8.3	RYK
7	13/8/20	Yoghurt and Fermented milk products	8.1, 8.2, 8.3	RYK
8	Mid-term Examination (20/8/20)			
9	27/8/20	Raw milk analysis		ST
10	3/9/20	Milk pasteurization and sterilization	8.1, 8.2, 8.3	JL
11	10/9/20	Evaporated milk and Milk powder	8.1, 8.2, 8.3	PT
12	17/9/20	Dairy Plant design / Material and Equipment for dairy industry 1	8.1, 8.2, 8.3	RY
13	24/9/20*	Mahidol Day (No class)		
14	1/10/20	Material and Equipment for dairy industry 2	8.1, 8.2, 8.3	RY
15	8/10/20	Utility systems in dairy industry	8.1, 8.2, 8.3	RY
16	15/10/20	Cleaning in dairy industry	8.1, 8.2, 8.3	RY
17	Final Examination (22/10/20)			
18	29/10/20	Dairy Show (Online presentation / Assignment report)	8.1, 8.2, 8.3, 8.4	All of Staffs

## Course Assessment

No.	Methods / Activities	Regulations	CLOs	Week	Weight Distribution (%)
11.1	Mid-term exam	Take home / Online examination	8.1, 8.2, 8.3	2-7	33
11.2	Final exam	Take home / Online examination	8.1, 8.2, 8.3	9-12, 14-16	38.5
11.3	Assignment Report	Rubric, by class instructor	8.1, 8.2, 8.3, 8.4	18	14
11.4	Online presentation	Rubric, by class instructor	8.1, 8.2, 8.3, 8.4	18	10
11.5	Class participation	Instructor evaluation of class participation	8.4	1-7, 9-16	4.5
				<b>Total</b>	<b>100</b>

## 11. Grading System

Criterion-referenced evaluation

Grade	Score	Grade	Score	Grade	Score	Grade	Score
A	≥ 80 %	B	70 – 74.99%	C	60 – 64.99%	D	50 – 54.99%
B+	75 – 79.99%	C+	65 – 69.99%	D+	55 – 59.99%	F	< 50 %

Norm-referenced evaluation

## 12. References

12.1 Lund, G. (1995). Dairy processing handbook, Tetra Pak Processing Systems AB, Sweden.

12.2 Smit, G. (2003). Dairy processing: Improving quality, CRC Press, New York.

12.3 Walstra, P., Wouters, J. T. M., Geurts, T.J. (2006). Dairy science and technology. CRC/Taylor & Francis, Boca Raton.

12.4 Robinson, R.K. (2002). Dairy Microbiology handbook : [the microbiology of milk and milk products], New York, : Wiley.