



Course Syllabus (Academic Year 2021)

School of Interdisciplinary Studies, Kanchanaburi Campus, Mahidol University

1. **Course No. and Title** : KAFT 483 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** : 1st Semester Academic Year 2021
5. **Class Schedule & Venue** : Monday, 9.00-12.00, Hybrid classroom (Webex & Room XXX)
6. **Class Coordinator** : Ronnachai Yoddumnem
 Contact No. : 0818899867 E-mail : ronnachai_y@hotmail.com

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, G2	K3, K7, K9, K10	1
8.3	Students will be able to explain the principles and factors that affect the quality of dairy and dairy products.	S5	G1, G2	K2, K16	4
8.4	Demonstrate the use of communication skill and show cooperative teams	-	G10, G13 G14-G17	K25	4,5

9. Class Instructor List

9.1 Ronnchai Yoddumnern (RY)	Email : ronnachai_y@hotmail.com
9.2 Dr. Jarupat Luecha (JL)	Email : jarupat.lue@mahidol.ac.th
9.3 Dr. Natteewan Udomsilp (NU)	Email : paeng888@hotmail.com
9.4 Dr. Renu Yenket (RYK)	Email : ryenket@gmail.com
9.5 Dr. Patnarin Benjathiar (PB)	Email: patnarin.ben@mahidol.ac.th

10. Course Outline

Week	Date	Contents	CLOs	Instructor's Names
1	28/06/21	Course introduction	8.1	RY
2	05/07/21	Introduction to dairy products	8.1, 8.2, 8.3	RY
3	12/07/21	Milk secretion, collection	8.1, 8.2, 8.3	JL
4	19/07/21	Milk analysis	8.1, 8.2, 8.3	RY
5	26/07/21	Dairy microbiology, Starter culture, Probiotic, Prebiotic	8.1, 8.2, 8.3	NU
6	02/08/21	Evaporated milk and Milk powder	8.1, 8.2, 8.3	RY
7	09/08/21	Yoghurt and Fermented milk products	8.1, 8.2, 8.3	RYK
8	16/08/21	Ice cream / Cream and Butter	8.1, 8.2, 8.3	RYK
9	Mid-term Examination (23 Aug 2021)			
10	30/08/21	Milk pasteurization and sterilization	8.1, 8.2, 8.3	JL
11	06/09/21	Packaging in dairy product	8.1, 8.2, 8.3	PB
12	13/09/21	Dairy Plant design / Material and Equipment for dairy industry 1	8.1, 8.2, 8.3	RY
13	20/09/21	Material and Equipment for dairy industry 2	8.1, 8.2, 8.3	RY
14	27/09/21	Utility systems in dairy industry	8.1, 8.2, 8.3	RY
15	04/10/21	Cleaning and sanitizing in dairy industry	8.1, 8.2, 8.3	RY
16	11/10/21	Wrap up / Presentation / Assignment report	8.1, 8.2, 8.3, 8.4	RY

17	Final Examination (18 Oct 2021)
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11. Course Assessment

No.	Methods / Activities	Regulations	CLOs	Week	Weight Distribution (%)
11.1	Mid-term exam	- Online or onsite - Open book or closed book	8.1, 8.2	1-7	35
11.2	Final exam	- Online or onsite - Open book or closed book	8.1, 8.2	8, 10-15	35
11.3	Assignment	Individual / group assignment / presentation / report	8.1, 8.2, 8.3, 8.4	1-8, 10-15	20
11.4	Class participation	Instructor evaluation of class participation	8.4	1-8, 10-16	10
Total					100

12. 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 %

13. References

13.1 Deeth, H. C., & Lewis, M. J. (2017). High Temperature Processing of Milk and Milk Products. In High Temperature Processing of Milk and Milk Products.

13.2 Walstra, P., Walstra, P., Wouters, J.T.M., & Geurts, T.J. (2005). Dairy Science and Technology (2nd ed.). CRC Press.