



SCHOOL OF AGRO-INDUSTRY, MAE FAH LUANG UNIVERSITY

Course code: 1403401

Prerequisite: 1403204 Food Processing

Semester: 1

Time: Lecture Thursday 10.00-12.00
Laboratory Wednesday 13.00-16.00

Course title: Tea and Coffee Technology

Type of course: Major elective

Academic year: 2022

Room: E4A-609
Room: S4-120

Co-ordinator:

Sirirung Wongsakul (SW)
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Instructors:

Natthawuddhi Donlao (ND)
Piyaporn Cheumchaitrakul (PC)
Prinya Wongsas (PW)

Course description:

Origin and history of tea and coffee; chemical composition; classification; harvesting; processing; blending; packaging; instruments and control systems; standards; health effect and safety consideration; product development and market trends; study tour.

Course objectives:

After completion of this course, students should be able to;

1. Understand history, types of tea and coffee and their characteristics.
2. Describe the chemical composition and processing of tea and coffee.
3. Understand the standard, health effects of tea and coffee.
4. Know the product development, tasting, and market trends.

Assessment:

1. Formative	70%
Quiz and assignment	30%
Lab report	20%
Term project & presentation	10%
Participation & Attention	6+4%
2. Summative	30%
Midterm examination	15% (12 October 2022, 13.30-16.30)
Final examination	15% (14 December 2022, 13.30-16.30)
Total	100%

Grading criteria:

80-100%	A
75-79%	B+
70-74%	B
65-69%	C+
60-64%	C
55-59%	D+
50-54%	D
< 50%	F

References:

1. Preedy, V. R. (2013) Tea in Health and Disease Prevention, Elsevier Inc. London, UK.
2. Chi-Tang Ho, Jan-Kun Lin and Fereidoon Shahidi (2009) Tea and Tea Products: Chemistry and health-Promoting Properties, CRC Press Taylor & Francis Group, LLC.
3. Clarke R. J. and Vizthum, O. G. (2001) Coffee Recent development, Blackwell Science, UK.
4. Yong-su Zhen (2002) TEA: Bioactivity and Therapeutic Potential, CRC Press Taylor & Francis Group, LLC.
5. Yukihiro Hara (2001) Green Tea: Health Benefits and Applications. New York: Marcel Dekker.
6. Banks, M., Macfadden, C. and Atkinson, C. (2010) The World Encyclopedia of Coffee. Anness Publishing Ltd, London, UK.

TENTATIVE LECTURE SCHEDULE
1403401 Tea and Coffee Technology
First Semester Academic year 2022
Time: Thursday 10.00-12.00 Room: E4A-609

Week	Date	Topic	Brief content	Lecturer
1	18 Aug 22	Course overview Orientation	- Course overview - Introduction	SW
2	25 Aug 22	Tea	- Origin and history of tea - World tea production and consumption - Current status	PC
3	1 Sep 22		- Harvesting - Classification - Chemical composition	PC
4	8 Sep 22		- Processing - Instruments and control systems	ND
5	15 Sep 22		- Blending - Packaging	ND
6	22 Sep 22		- Tea tasting	PC
7	29 Sep 22		- Standard and specification - Health effect and safety	ND
8	6 Oct 22		- Product development - Market trends	ND
	Midterm examination Date: 12 October 2022 (13.30-16.30)			
9	20 Oct 22	Coffee	- Origin and history - World coffee production and consumption - Current status	SW
10	27 Oct 22		- Harvesting - Classification - Chemical composition	SW
11	3 Nov 22		- Processing - Instruments and control systems	PW
12	10 Nov 22		- Brewing - Coffee tasting	PW
13	17 Nov 22		- Blending - Packaging	PW
14	24 Nov 22		- Standard and specification - Health effect and safety	PW
15	1 Dec 22		- Product development - Market trends	PW
	Final examination Date: 14 December 2022 (13.30-16.30)			

TENTATIVE LABORATORY SCHEDULE
1403401 Tea and Coffee Technology
First Semester Academic year 2022
Wednesday 13.00-16.00 Room: S4-120

No.	Date	Topic	Instructors
1	17 Aug 22	Lab orientation	Staff
2	24 Aug 22	1. Determination of total polyphenols in teas	PC
3	31 Aug 22	2. Determination of antioxidant capacity in teas	PC
4	7 Sep 22	3. Tea processing	ND
5	14 Sep 22	4. Production of instant tea powder	ND
6	21 Sep 22	5. Tea brewing and tasting	PC
7	28 Sep 22	6. Evaluation of tea qualities	ND
8	5 Oct 22	Lab conclusion Topics and issues related tea and coffee technology	Staff
	Midterm examination Date: 12 October 2022 (13.30-16.30)		
9	19 Oct 22	7. Coffee grading and cupping	SW
10	26 Oct 22	8. Coffee roasting	SW
11	2 Nov 22	9. Coffee brewing	SW
12	9 Nov 22	10. Profile of volatile flavor of roasted coffee beans	PW
13	16 Nov 22	Study tour	Staff
14	23 Nov 22	Study tour	Staff
15	30 Nov 22	Lab conclusion Topics and issues related to tea and coffee technology	Staff
	Final examination Date: 14 December 2022 (13.30-16.30)		