



School of Bioinnovation and Bio-based Product Intelligence (SCIN)
Program in Bioinnovation (International Program, Multidisciplinary Program)
Course: SCIN 292 Bioinnovation in Food Industry

Degree Bachelor Master Doctoral
Faculty of Science

Course Code and Course Title	English SCIN 292 Bioinnovation in Food Industry Thai วิชา ๒๙๒ ชีวนวัตกรรมในอุตสาหกรรมอาหาร
Number of Credits	2 (2-0-4)
Curriculum and Course Type	Program of Study Bachelor's Degree Program in Science and Technology (International Program, Multidisciplinary Program) Course Type Major Elective Course
Course Coordinator	Asst. Prof. Siriyupa Netramai, Ph.D Address: School of Bioinnovation and Bio-based Product Intelligent, Faculty of Science, Mahidol University Tel: n/a email: siriyupa.net@mahidol.edu
Semester/Year of Study	Academic Year 2023 Second Semester (2/2023) / Second Year
Prerequisite	None
Co-requisite	None
Day/Time/Study Site Location	Thursday / 1.30PM-3.30PM / Online/On campus SC1-161 , Faculty of Science, Mahidol University, Salaya Campus / Zoom
Google Classroom Link	https://classroom.google.com/c/NjQ5NzM0MDc1OTg3
Google Classroom Code	alx7x3g
Date of Latest Revision	17 December 2023

Course Learning Outcomes (CLOs)

After successful completion of this course, students are able to

1. Explain concepts of bio- and food innovation
2. Discuss importance of bio- and food innovation in various aspects related to food industry
3. Apply specific innovation to given problems and/or challenges related to food industry

Objectives of Development / Revision

To revise for new academic year

Course Description

Bioinnovation in food industry for better quality of life; food innovation for food security and food safety; food innovation in food industry and related fields; innovation for quality control of raw materials; processing aids in bioprocess production; innovation in food seasoning; food ingredients, bioactive compounds and food molecules; products improvement; biostability of food products; innovation in food bioformulation; important of food innopolis for society and economy (market share, production efficiency, reduce production cost, food-innovation specialist); innovation in law and regulations for bioinnovation in food industry.



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Credit Hours / Trimester

Theory (Hours)	Addition Class (Hours)	Laboratory/Field trip/ Internship (Hours)	Self-study (Hours)
30 Hours/Semester (2 Hours x 15 Weeks)	-	-	60 Hours/Semester (4 Hours x 15 Weeks)

Number of Hours per Week for Individual Advice

2 hours per week or student requirement during prescribed date and time

Evaluation of the CLOs

Course Learning Outcomes	Measurement Method			Weight (%)
	Class Attendance, Participation and Behavior in Class	Written Exam	Class Project	
CLO1 Explain concepts of bio- and food innovation	-	15%	5%	20%
CLO2 Discuss importance of bio- and food innovation in various aspects related to food industry	5%	20%	10%	35%
CLO3 Apply specific innovation to given problems and/or challenges related to food industry	5%	30%	10%	45%
Total	10%	65%	25%	100%

Measurement and evaluation

After completion of the evaluation process each student is assigned a criterion-referenced grade (as shown in the table below). Evaluation and achievement will be justifying according to Faculty and University code, conducted by grading system of A, B+, B, C+, C, D and F. To pass this course, student must earn a grade of a least D.

Total Percentage of Evaluation	Below 50	50-54.99	55-59.99	60-64.99	65-69.99	70-74.99	75-79.99	80-100
Grade	F	D	D+	C	C+	B	B+	A



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Teaching Schedule 2nd Semester of Academic Year 2022

Week	Date	Topic	Number of Hours		Instructor
			Lecture	Laboratory	
1	11 Jan. 2024	- Course introduction - Bioinnovation for health and wellness	2	0	Asst. Prof. Siriyupa Netramai
2	18 Jan. 2024	Innovation for food security and safety	2	0	Asst. Prof. Siriyupa Netramai
3	25 Jan. 2024	Innovation in food- and related industries	2	0	Asst. Prof. Siriyupa Netramai
4	1 Feb. 2024	- Innovative flavouring agent, ingredient, bioactive compound, and other food additives and processing aids I - Biostability of food product	2	0	Asst. Prof. Siriyupa Netramai
5	8 Feb. 2024	Sensory research for innovation in food industries	2	0	Asst. Prof. Aussama Soontrunrudrungsri
6	15 Feb. 2024	Law and regulations on bioinnovation in food industry	2	0	Dr. Thitisilp Kijchavengkul
7	22 Feb. 2024	Innovative flavouring agent, ingredient, bioactive compound, and other food additives and processing aids II	2	0	Assoc. Prof. Sittiwat Lertsiri
8	29 Feb. 2024	Innovative postharvest technology	2	0	Asst. Prof. Hayati Samsudin
Midterm examination (4-8 Mar. 2024)					
10	14 Mar. 2024	Current status of innovation in raw materials: Impact on food industry	2	0	Assoc. Prof. Kanyaratt Supaibulwatana
11	21 Mar. 2024	Validation of innovation in food- and related industries	2	0	Asst. Prof. Aussama Soontrunrudrungsri
13	28 Mar. 2024	Quality improvement	2	0	Dr. Thitisilp Kijchavengkul
13	4 Apr. 2024	Innovation for quality control in food industry	4	0	Dr. Thitisilp Kijchavengkul
14	11 Apr. 2024				
15	18 Apr. 2024	- Innovation in food bioformulation	4	0	Asst. Prof. Siriyupa Netramai
16	25 Apr. 2024	- Importance of food innopolis on society and economics			
Final examination (29 Apr.-10 May 2024)					

* Thursday 1.30PM-3.30PM Online/On campus Faculty of Science, Mahidol University, Salaya Campus