



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 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.ac.th
Semester/Year of Study	Academic Year 2022 Second Semester (2/2022) / Second Year
Prerequisite	None
Co-requisite	None
Day/Time/Study Site Location	Thursday / 1.30PM-3.30PM / Online/On campus TBA, Faculty of Science, Mahidol University, Salaya Campus / Zoom
Google Classroom Link	https://classroom.google.com/u/0/c/NTc4NzI4NTgxMTc2
Google Classroom Code	56m5lu5
Date of Latest Revision	13 December 2022

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.



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

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



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

Teaching Schedule 2nd Semester of Academic Year 2022

Week	Date	Topic	Number of Hours		Instructor
			Lecture	Laboratory	
1	12 Jan. 2023	- Course introduction - Bioinnovation for health and wellness	2	0	Asst. Prof. Siriyupa Netramai
2	19 Jan. 2023	Innovation for food security and safety	2	0	Asst. Prof. Siriyupa Netramai
3	26 Jan. 2023	Innovation in food- and related industries	2	0	Asst. Prof. Siriyupa Netramai
4	2 Feb. 2023	Sensory research for innovation in food industries	2	0	Asst. Prof. Aussama Soontrunrudrungsri
5	9 Feb. 2023	Validation of innovation in food- and related industries	2	0	Asst. Prof. Aussama Soontrunrudrungsri
6	16 Feb. 2023	- Innovative flavouring agent, ingredient, bioactive compound, and other food additives and processing aids - Biostability of food product	2	0	Assoc. Prof. Sittiwat Lertsiri
7	23 Feb. 2023		2	0	Asst. Prof. Siriyupa Netramai
8	2 Mar. 2023	Innovative postharvest technology	2	0	Asst. Prof. Hayati Samsudin
Midterm examination (7–10 Mar. 2023)					
10	16 Mar. 2023	Current status of innovation in raw materials: Impact on food industry	2	0	Assoc. Prof. Kanyaratt Supaibulwatana
11	23 Mar. 2023	Quality improvement	2	0	Dr. Thitisilp Kijchavengkul
13	30 Mar. 2023	Innovation for quality control in food industry	4	0	Dr. Thitisilp Kijchavengkul
13	TBA				
14	TBA				
15	20 Apr. 2023	- Innovation in food bioformulation - Importance of food innopolis on society and economics	4	0	Asst. Prof. Siriyupa Netramai
16	27 Apr. 2023	Law and regulations on bioinnovation in food industry	2	0	Dr. Thitisilp Kijchavengkul
Final examination (1-12 May 2023)					

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

** TBA = To be announced