



School of Bioinnovation and Bio-based Product Intelligence (SCIN)
 Program in Bioinnovation (International Program, Multidisciplinary Program)
 Course: SCIN 494 Senior Project in Bioinnovation II

Degree Bachelor Master Doctoral
 Faculty of Science

Course Code and Course Title	English: SCIN 494 Senior Project in Bioinnovation II Thai: วิชา ๔๙๔ โครงการศึกษาระดับพิเศษ ๒
Number of Credits	3 (0-9-3)
Curriculum and Course Type	Program of Study Bachelor's Degree Program in Science and Technology (International Program, Multidisciplinary Program) Course Type Specific Course
Course Coordinator	Tatpong Tulyananda, Ph.D Address: School of Bioinnovation & Bio-based Product Intelligence, SC1-308 Faculty of Science, Mahidol University, Salaya Tel: 0-2201-5000 email: tatpong.tul@mahidol.edu
Semester/Year of Study	Academic Year 2022 first semester 4th Year
Prerequisite	SCIN 394
Co-requisite	None
Day/Time/Study Site Location	Thursday 9.00-12.00 Faculty of Science, Mahidol University
Date of Latest Revision	1 June 2022

Course Learning Outcomes (CLOs)

After successful completion of this course, students are able to

- CLO 1 Can design and conduct innovative research project
- CLO 2 Can analyze research instrumental and key technology
- CLO 3 Be able to collect data and analysis
- CLO 4 Discuss and evaluate research results
- CLO 5 Can prepare a proper research presentation as well as a research article draft

Objectives of Development / Revision

First revision

Course Description

Planning and proceeding for a case study of research in bioinnovation; research instrumental analysis and key technology; data collection and analysis; results evaluation and discussion; research writing; research presentation

Credit Hours / Trimester

Theory (Hours)	Addition Class (Hours)	Laboratory/Field trip/ Internship (Hours)	Self-study (Hours)
-	-	135 Hours/Semester (9 Hours x 15 Weeks)	45 Hours/Semester (3 Hours x 15 Weeks)



Number of Hours per Week for Individual Advice

By appointment at SC1-308 Faculty of Science, Mahidol University, Salaya Campus

Evaluation of the CLOs

Course Learning Outcomes	Measurement Method			Weight (%)
	Class Attendance	Written Exam	Research Project	
CLO1 Can design and conduct innovative research project	-	-	5%	5%
CLO2 Can analyze research instrumental and key technology	-	-	5%	5%
CLO3 Be able to collect data and analysis	-	-	25%	25%
CLO4 Discuss and evaluate research results	-	-	35%	35%
CLO5 Can prepare a proper research presentation as well as a research article draft	-	-	30%	30%
Total	-	-	100%	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	55-59	60-64	65-69	70-74	75-79	80-100
Grade	F	D	D+	C	C+	B	B+	A



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Teaching Schedule 2nd Semester of Academic Year 2020

Week	Date TBA	Topic	Hour		Instructor
			Lecture	Lab	
1		Introduction	0	9	Dr. Tatpong Tulyananda
2		Concepts of research proposal	0	9	Dr. Tatpong Tulyananda
3		Proposal drafting I	0	9	Dr. Tatpong Tulyananda
4		Proposal drafting II	0	9	Dr. Tatpong Tulyananda
5		Conducting experiment, report drafting	0	9	TBA
6			0	9	TBA
7			0	9	TBA
8			0	9	TBA
Midterm examination (no exam)					
10		Conducting experiment, report drafting	0	9	TBA
11			0	9	TBA
12			0	9	TBA
13			0	9	TBA
14			0	9	TBA
15			0	9	TBA
16		Final discussion	0	9	Dr. Tatpong Tulyananda
Final examination (no exam)					