



School of Bioinnovation and Bio-based Product Intelligence (SCIN)
Program in Bioinnovation (International Program, Multidisciplinary Program)
Course: SCIN 102 Critical Thinking and Decision Making

Degree Bachelor Master Doctoral
Faculty of Science

Course Code and Course Title	English SCIN 102 Critical Thinking and Decision Making Thai วนทว ๑๐๒ การคิดเชิงวิจารณ์ญาณและการตัดสินใจ
Number of Credits	3 (3-0-6) (Lecture 3 hours – Laboratory 0 hour/week - Self-Study 6 hours/week)
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	Assoc. Prof. Wannapong Triampo, Ph.D. Address: Department of Physics, Faculty of Science, Mahidol University 272 Rama VI Road, Ratchathewi District, Bangkok 10400, THAILAND Tel. 02-201-5770-1 e-mail: wannapong.tri@mahidol.edu
Semester/Year of Study	Academic Year 2023-4, 2 nd Semester/ 1-2 Year
Prerequisite	None
Co-requisite	None
Day/Time/Study Site Location	Friday / 9:00-12:00 Faculty of Science, Mahidol University, Salaya Campus (ONLINE)
Date of Latest Revision	2 January 2024

Course Learning Outcomes (CLOs)

At the end of course, the students can

- 1.1 Explain how critical thinking and decision making can play role in leaning and living.
- 1.2 Discuss on the case studies or situations in the context of critical thinking and decision making.
- 1.3 Apply critical thinking and decision making in solving problem and/or daily life and learning.

Course Description

Thinking, logical reasoning, critical thinking, decision making, problem solving, applications of critical thinking and decision making for learning, applications of critical thinking and decision making for living.



Credit hours / trimester

Lecture (Hours)	Additional class (Hours)	Laboratory/field trip/internship (Hours)	Self- study (Hours)
45 hours (3 hours x 15 weeks)	-		90 hours (6 hour/ 15 weeks)

Number of hours that the lecture provides individual counseling and guidance

2 hour / week or student requirement during prescribed date and time

Evaluation of the CLOs (tentative)

CLO	Teaching method	Assessment method	Week	Percentage
1.	Lecture Project & Problem-based learning Group discussion	- Midterm	Throughout the course	10%
		- Final examination		15%
		- Class attendance, Class participation and behavior in class		5%
2.	Lecture Project & Problem-based learning Group discussion Case study	- Midterm	Throughout the course	10%
		- Final examination		15%
		- Class attendance, Class participation and behavior in class		10%
3.	Project-based learning Oral presentation, Group discussion	- Class project executed without plagiarism	Throughout the course	35%

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.

The tentative Grade evaluation

Total Percentage of Evaluation	Below 50	50-54.99	55-59.99	60-64.99	65-69.99	70-74.99	75-85.00	86-100
Grade	F	D	D+	C	C+	B	B+	A

Teaching staff:

Code	Name	Email
WT	Wannapong Triampo R3/1- SC 3 Building N (MUSC-Salaya)	wtriampo@gmail.com , wannapong.tri@mahidol.edu



Teaching Schedule 2nd Semester of Academic Year 2023-24

Section 5 Teaching and Evaluation Plans (tentative)

1. Teaching plan

Week	Topic	Hours			Teaching methods/ multimedia	Instructor
		Lecture	Laboratory	Self-study		
1 19 Jan	Introduction of course discipline and class orientation. What is thinking? What is critical thinking?	3	0	6	Think-Pair-Share Game based learning Active lecture	Wannapong
2 26 Jan	What is decision-making? Why is it important? How can we become a good decision maker?	3	0	6	Brain storming Group discussion Active lecture	Wannapong
3 2 Feb	Activities for promoting critical thinking skills.	3	0	6	Game based learning Group discussion	Wannapong
4 9 Feb	Critical thinking and problem solving I.	3	0	6	Problem based learning Group discussion	Wannapong
5 16 Feb	Critical thinking and problem-solving II.	3	0	6	Problem based learning Group discussion	Wannapong
6 23 Feb	Case studies for promoting critical thinking skills I.	3	0	6	Case based learning Group discussion	Wannapong
7 1 March	Case studies for promoting critical thinking skills II.	3	0	6	Case based learning Group discussion	Wannapong
8 8 Mar	Midterm					
9 15 Mar	Mini project on critical Thinking II.	3	0	6	Project based learning	Wannapong
10 22 Mar	From critical thinking to leadership	3	0	6	Active Lecture, Game-based learning	Wannapong
11 29 Mar	From critical thinking to leadership II	3	0	6	Active Lecture,	Wannapong



Week	Topic	Hours			Teaching methods/ multimedia	Instructor
		Lecture	Laboratory	Self-study		
					Game-based learn.	
12 5 Apr	Critical thinker and career link I	3	0	6	Active Lecture, Problem-based learning	Wannapong
13 12 Apr	Critical thinker and career link II	3	0	6	Active Lecture, Problem-based learning	Wannapong
14 19 Apr	Critical thinking for changing world	3	0	6	Active Lecture, Project-based learning discussion	Wannapong
15 26 Apr	Critical thinking for learning and daily life.	3	0	6	Active Lecture, Project-based learning	Wannapong
16 3 May	Final examination					
	Total hours	45	0	90		

Section 6 Teaching Materials and Resources

Teaching Materials and Resources

1. Texts and main documents

1. Alec Fisher (2001) Critical Thinking: An Introduction, Cambridge University Press
2. Theodore Schick Jr (2005) How to Think about Weird Things: Critical Thinking for a New Age, McGraw-Hill Humanities/Social Sciences/Languages

2. Documents and recommended information

- Richard W. Paul, Linda Elder (2013) Critical Thinking: Tools for Taking Charge of Your Critical Thinking: Tools for Taking Charge of Your Professional and Personal Life, Pearson FT Press
- The Critical thinking Community - <http://www.criticalthinking.org/pages/defining-critical-thinking/766>