



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 Bioinnovation (International Program, Multidisciplinary Program) or other related Majors Course Type Major Course or selected
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 2021 First Semester (1/2021) / First Year
Prerequisite	None
Co-requisite	None
Day/Time/Study Site Location	Wednesday / 8.30AM-9.30PM / and Thursday / 08.30AM-10.30AM Faculty of Science, Mahidol University, Salaya Campus (ONLINE)
Date of Latest Revision	July 2021

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

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	70-79.99	80-89.99	90-100
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 1st Semester of Academic Year 2021

Wednesday / 8.30AM-9.30PM / and Thursday / 08.30AM-10.30AM

Teaching plan

Week	Topic	Teaching methods/ multimedia		Instructor
1 11Aug 12Aug	Introduction of course discipline and class orientation. What is thinking? What is critical thinking?	3	Think-Pair-Share Game based learning Active lecture	Assoc. Prof. Wannapong Triampo
2 18Aug 19Aug	What is decision making? Why is it important? How can we become a good decision maker?	3	Brain storming Group discussion Active lecture	Assoc. Prof. Wannapong Triampo
3 25Aug 26Aug	Activities for promoting critical thinking skills.	3	Game based learning Group discussion	Assoc. Prof. Wannapong Triampo
4 1Sep 2Sep	Critical thinking and problem solving I.	3	Problem based learning Group discussion	Assoc. Prof. Wannapong Triampo
5 8Sep 9Sep	Critical thinking and problem solving II.	3	Problem based learning Group discussion	Assoc. Prof. Wannapong Triampo
6 15Sep 16Sep	Case studies for promoting critical thinking skills I.	3	Case based learning Group discussion	Assoc. Prof. Wannapong Triampo
7 22Sep 23Sep	Case studies for promoting critical thinking skills II.	3	Case based learning Group discussion	Assoc. Prof. Wannapong Triampo
8 29Sep 30Sep	Mini project on critical thinking I.	3	Project based learning	Assoc. Prof. Wannapong Triampo
9 7Oct	Midterm examination			Assoc. Prof. Wannapong Triampo
10 13Oct 14Oct	Mini project on critical Thinking II.	3	Project based learning	Assoc. Prof. Wannapong Triampo
11 20Oct 21Oct	From critical thinking to leadership	3	Active Lecture, Game-based learning	Assoc. Prof. Wannapong Triampo
12 27Oct 28Oct	From critical thinking to leadership II	3	Active Lecture, Game-based learning	Assoc. Prof. Wannapong Triampo
13 3Nov 4Nov	Critical thinker and career link I	3	Active Lecture, Problem-based learning	Assoc. Prof. Wannapong Triampo
14 10Nov	Critical thinker and career link II	3	Active Lecture, Problem-based learning	Assoc. Prof. Wannapong Triampo



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Week	Topic	Teaching methods/ multimedia		Instructor
11Nov				
15 17Nov 18Nov	Critical thinking for changing world	3	Active Lecture, Project-based learning discussion	Assoc. Prof. Wannapong Triampo
16 24Dec 25Dec	Critical thinking for learning and daily life.	3	Active Lecture, Project-based learning	Assoc. Prof. Wannapong Triampo
17 1Dec 2Dec	FINAL			
	Total hours	45		

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>