





General Education

Course Title 21<sup>st</sup> Century Learning and Learner

Course Code SCID 183

Degree  Bachelor  Master  Doctoral

Faculty of Science

School of Bioinnovation and Biobased Product Intelligence

## Section 2 Aims and Objectives

### 1. Course Goals

The goal is to introduce students to 21<sup>st</sup>-century learning and learner and to make them able to design and create their effective learning strategy and plan to make them learn with full capacity in the real world.

### 2. Objectives of Development/Revision

#### Course-level Learning Outcomes (CLOs)

By the end of the course, students are able to

- 1) CLO1 Explain key knowledge, ideas, theories, and principles of learning in the context of the 21<sup>st</sup> century
- 2) CLO2 Communicate and share both in an oral and written presentation using technology in the context of the 21<sup>st</sup> century
- 3) CLO3 Analyze the learning process and tools used in learning and solving the problem in real life.
- 4) CLO4 Design and create an effective learning strategy and plan

### 3. Number of Hours per Semester

Theory (hours)	Practice (hours)	Self-study (hours)
45 Hours/Semester (3 Hours x 15 Weeks)	None	90 Hours/Semester (6 Hours x 15 Weeks)

### 4. How to organize learning experiences to develop the knowledge of skills stated in number 1 and how to measure the learning outcomes

Course Learning Outcomes	Teaching and learning experirnce management			Learning outcomes measurements		
	Active Lecture	Project-Based Learning	Group Discussion	Class Participa-tion	Written Exam	Class Project (individual & Group)



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CLO1	✓		✓	✓	✓	
CLO2	✓		✓	✓	✓	
CLO3	✓		✓	✓	✓	✓
CLO4	✓	✓	✓	✓	✓	✓

## Section 5 Lesson plan and evaluation

### 1. Lesson plan (Module based) (ses 1: 9 -12, Ses 2: 13-16)

Class	Topic	Date			Teaching methods/ multimedia	Instructors
1	Course orientation What is learning?	26 July -Ses 1			(Flipped Classroom) Active lecture	Wannapong Triampo
2	21 <sup>st</sup> century Skills & Competencies	26 July- Ses 2			Group discussion Active lecture	
3	Learning Theory & 21 <sup>st</sup> Century Learner	29 July Ses 1			Group discussion Active lecture	or
4	21 <sup>st</sup> century learning: Learning how to learn	29 July Ses 2			Group discussion Active lecture	Invited in- structors
5	21 <sup>st</sup> century learning: Learning how to learn	30 July Ses 1			Group discussion Active lecture	
6	Learning Theory, plan, and Design	30 July Ses 2			Group discussion Active lecture	
7	Logical and analytical thinking	2 Aug Ses 1			Group discussion Active lecture	
8	Critical thinking	2 Aug Ses 2			Group discussion Active lecture	
<b>9</b>	<b>Midterm examination</b>					
10	Creative thinking & innovation	3 Aug Ses 1			Group discussion Active lecture	Wannapong Triampo
11	Creative thinking & innovation	3 Aug Ses 2			Group discussion Active lecture	
12	Effective Problem solving	4 Aug Ses 1			Group discussion Active lecture	Invited in- structors
13	Effective Problem solving	5 Aug Ses 1			Active Lecture, Group discussion	
14	Effective communication	5 Aug Ses 2			Active Lecture, Group discussion	
15	Technology enhanced learning & design	6 Aug Ses 1			Active Lecture, Project-based learning	
16	Creating a learning strategy and plan	6 Aug Ses 2			Active Lecture, Project-based learning	
<b>17</b>	<b>Final examination</b>					



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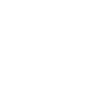
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Class	Topic	Date			Teaching methods/ multimedia	Instructors
	Total hours	90				





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It is noted that for this particular case, we will arrange course using module based setup.

## 2. Evaluation of the CLOs

### 2.1 Measurement and Evaluation of learning achievement

#### a. Formative Assessment

Quiz & feedback for all CLOs.

#### b. Summative Assessment

(1) Tool and weight for measurement and evaluation

Course Learning Outcomes	Evaluation Strategies			Weight (%)
	Class Participation & Group Discussion	Written Exam	Class Project (Individual & Group)	
CLO1	5%	15%	-	20%
CLO2	5%	15%	-	20%
CLO3	5%	15%	10%	30%
CLO4	5%	15%	10%	30%
<b>Total</b>	<b>20%</b>	<b>60%</b>	<b>20%</b>	<b>100%</b>

**Note:** Students have the right to request a review of a grade and appeal evaluation decisions

(Mahidol University Disciplinary Measures 2010)

(2) Grading System

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, the student must earn a grade of a least D.

<b>Total Percentage of Evaluation</b>	Below 40	40-44	45-49	50-59	60-69	70-79	80-89	90-100
<b>Grade</b>	F	D	D+	C	C+	B	B+	A

D is considered a minimal level for students to achieve learning outcomes.



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### 3. Students' Appeal

In the event a student believes an assigned grade or an imposed academic action is incorrect or not appropriate, the student may follow the processes outlined below to seek prompt and equitable resolution of the matter.

If a student believes a grade has been incorrectly assigned, the student should:

- 1) Present the case to the course director, providing all supporting data concerning the nature of the discrepancy.
- 2) If, after a decision is rendered, the student believes that his or her concerns have not been adequately resolved, the student may pursue a formal appeal with the academic program. To appeal to the academic program, a student must present a written statement detailing the grounds for the appeal with appropriate documentation to the program director. This appeal must be within seven (7) days of the course director's decision. The program director will provide a written decision, including the basis for it, within seven (7) days, or as soon thereafter as practical.
- 3) If the student is not satisfied with the program director's resolution, the student may pursue the appeal at the faculty level. To appeal at the faculty level, the student must present copies of all documents originally sent to the course director and the program director, along with a formal letter of appeal, to the dean of the Faculty of Science. This appeal must be submitted within seven (7) days of the program director's decision. The dean of the Faculty of Science will review the appeal and will render a written decision, including the basis for it, within seven (7) days, or as soon thereafter as practical.

If, after carrying out the steps of either process described above, the student believes that the matter has not been adequately resolved, or if no decision has been rendered by the appropriate date, the student may appeal at the university level at the Faculty of Graduate Studies. To appeal at the university level, the student must present copies of all documents and a formal letter of appeal to the dean of the Division of Education Administration. The responsible party will respond in writing with a final resolution, including the basis for it, as soon thereafter as practical.



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## Section 6 Teaching Resources

### 1. Suggested Materials

- A. Ambrose., et al., How Learning Works: Seven Research-Based Principles for Smart Teaching, 2010, Wiley
- 21<sup>st</sup> Century Learning and Learner by Wannapong Triampo (Hands-out)

### 3. Electronic Information and Websites

[www.ilearnsci.com](http://www.ilearnsci.com) by Wannapong Triampo

### 4. Recommended Background

Science, Technology, and Mathematics