



|                                     |  |
|-------------------------------------|--|
| <b>Course Code and Course Title</b> | English SCIN 102 Critical Thinking and Decision Making<br>Thai วนทนว ๑๐๒ การคิดเชิงวิจารณ์ญาณและการตัดสินใจ  |
| <b>Number of Credits</b>            | 3 (3-0-6) (Lecture 3 hours – Laboratory 0 hour/week - Self-Study 6 hours/week)   |
| <b>Curriculum and Course Type</b>   | Program of Study Bachelor’s Degree Program in Science and Technology<br>(International Program, Multidisciplinary Program)<br>Course Type Major Course   |
| <b>Course Coordinator</b>           | Assoc. Prof. Wannapong Triampo, Ph.D.<br><br>Address: Department of Physics, Faculty of Science, Mahidol University<br>272 Rama VI Road, Ratchathewi District, Bangkok 10400,<br>THAILAND<br><br>Tel. 02-201-5770-1 e-mail: <a href="mailto:wtriampo@gmail.com">wtriampo@gmail.com</a> |
| <b>Semester/Year of Study</b>       | Academic Year 2024-25 First Semester (1/2024) / First Year   |
| <b>Prerequisite</b>                 | None   |
| <b>Co-requisite</b>                 | None   |
| <b>Day/Time/Study Site Location</b> | Tuesday / 10.30-13.30<br>Faculty of Science, Mahidol University, Salaya Campus (SC1-158)   |
| <b>Date of Latest Revision</b>      | July 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<br>(3 hours x 15 weeks) | -                        |  | 90 hours<br>(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<br>Project & Problem-based learning<br>Group discussion               | - Midterm   | Throughout the course | 10%        |
|     |   | - Final examination   |                       | 15%        |
|     |   | - Class attendance, Class participation and behavior in class |                       | 5%         |
| 2.  | Lecture<br>Project & Problem-based learning<br>Group discussion<br>Case study | - Midterm   | Throughout the course | 10%        |
|     |   | - Final examination   |                       | 15%        |
|     |   | - Class attendance, Class participation and behavior in class |                       | 10%        |
| 3.  | Project-based learning<br>Oral presentation,<br>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 | 75-79.99 | 80-100 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|--------|
| Grade                          | F        | D        | D+       | C        | C+       | B        | B+       | A      |

**Teaching staff:**

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



### Teaching Schedule 1<sup>st</sup> Semester of Academic Year 2024-5

Tuesday / 10.30-13.30

#### Teaching plan

| Week                    | Topic   | Teaching methods/<br>multimedia |   | Instructor                        |
|-------------------------|---|---------------------------------|---|-----------------------------------|
| 1<br>13Aug              | Introduction of course discipline and class orientation.<br>What is thinking?<br>What is critical thinking? | 3                               | Think-Pair-Share<br>Game based learning<br>Active lecture | Assoc. Prof.<br>Wannapong Triampo |
| 2<br>20Aug              | What is decision making?<br>Why is it important?<br>How can we become a good decision maker?                | 3                               | Brain storming<br>Group discussion<br>Active lecture      | Assoc. Prof.<br>Wannapong Triampo |
| 3<br>27Aug              | Activities for promoting critical thinking skills.  | 3                               | Game based learning<br>Group discussion                   | Assoc. Prof.<br>Wannapong Triampo |
| 4<br>3Sep               | Critical thinking and problem solving I.  | 3                               | Problem based learning<br>Group discussion                | Assoc. Prof.<br>Wannapong Triampo |
| 5<br>10Sep              | Critical thinking and problem solving II.   | 3                               | Problem based learning<br>Group discussion                | Assoc. Prof.<br>Wannapong Triampo |
| 6<br>17Sep              | Case studies for promoting critical thinking skills I.  | 3                               | Case based learning<br>Group discussion                   | Assoc. Prof.<br>Wannapong Triampo |
| 7<br>24Sep              | Case studies for promoting critical thinking skills II.   | 3                               | Case based learning<br>Group discussion                   | Assoc. Prof.<br>Wannapong Triampo |
| 8<br>25Sep<br>(made up) | Mini project on critical thinking I.  | 3                               | Project based learning                                    | Assoc. Prof.<br>Wannapong Triampo |
| 9<br>1 Oct.             | <b>Midterm examination</b>  |                                 |   | Assoc. Prof.<br>Wannapong Triampo |
| 10<br>15 Oct            | Mini project on critical Thinking II.   | 3                               | Project based learning                                    | Assoc. Prof.<br>Wannapong Triampo |
| 11<br>22Oct             | From critical thinking to leadership  | 3                               | Active Lecture,<br>Game-based learning                    | Assoc. Prof.<br>Wannapong Triampo |
| 12<br>29Oct             | From critical thinking to leadership II   | 3                               | Active Lecture,<br>Game-based learning                    | Assoc. Prof.<br>Wannapong Triampo |
| 13<br>5Nov              | Critical thinker and career link I  | 3                               | Active Lecture,<br>Problem-based learning                 | Assoc. Prof.<br>Wannapong Triampo |



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

| Week         | Topic   | Teaching methods/<br>multimedia |  | Instructor                        |
|--------------|---|---------------------------------|--|-----------------------------------|
| 14<br>12Nov  | Critical thinker and career link II               | 3                               | Active Lecture,<br>Problem-based learning                | Assoc. Prof.<br>Wannapong Triampo |
| 15<br>19Nov  | Critical thinking for changing world              | 3                               | Active Lecture, Project-<br>based learning<br>discussion | Assoc. Prof.<br>Wannapong Triampo |
| 16<br>26 Nov | Critical thinking for learning and<br>daily life. | 3                               | Active Lecture, Project-<br>based learning               | Assoc. Prof.<br>Wannapong Triampo |
|              |   |                                 |  |                                   |
| 17<br>3 Dec  | Final Exam  | 3                               |  | Assoc. Prof.<br>Wannapong Triampo |
|              | <b>Total hours</b>                                | 45                              |  |                                   |

## Teaching Materials and Resources

### 1. Texts and main documents

- The Critical Thinking Community - <http://www.criticalthinking.org/pages/defining-critical-thinking/766>
- Handout distributed in class