

SCME 372 Scientific Creativity and Innovation (3 credit)

Academic Year 2023

Class Schedule: Thursday morning (9:00 – 12:00)

Room: SC1-159

Google Class Link: <https://classroom.google.com/c/NjQ2NzQ4OTY4NDU4?cjc=zpniatm>

Google Class Code: zpniatm

Coordinator: Assoc. Prof. Dakrong Pissuwan (email: dakrong.pis@mahidol.ac.th)

Office: K554, Phayathai campus (by appointment)

Instructors:

Assoc. Prof. Dakrong Pissuwan (email: dakrong.pis@mahidol.ac.th)

Office: K554, Phayathai campus (by appointment)

Assoc. Prof. Kittitat Subannajui (email: kittitat.sub@mahidol.ac.th)

Office: B400, Phayathai campus (by appointment), Phone: 0890888204

Invited Speakers from industrial and government sections

Course Description: This course aims to inspire students and provide them with an appreciation of how innovation drives advances in scientific research, technological evolution and the generation of new products for the benefit of society. Topics covered include: basic principles of innovation, the aim of innovation in terms of society, science and technology, ten types of innovation, concept integration and complementary innovations, innovation incubation, examples of successful innovation (national and global), basic principles of technology and innovation in relation to technology. Students will gain insights into how innovation drives product development and business efficiency through visiting lectures from company representatives. The effective communication for building innovation will be included.

Grading Policy: Course assessment will be based on the following:

Attendance: 10%

Students must attend all classes for full marks, and 80% of classes overall to pass. Late (> 10 min) will be recorded as absence.

Quizzes and class activities 90% (split between each lecturer as per number of classes)

The final grade given will be based on letter scale (A, B⁺, B, C⁺, C, D⁺, D, F).

Reference Material

1. Keely, L; Walters, H; Pikkell, R; Quinn, B. The Ten Types of Innovation: The Discipline of Building Breakthroughs. Wiley, New Jersey, USA, 2013
2. Other material as indicated by instructors

Class Schedule SCME 372 (Thursday 9:00 – 12:00 pm)

Coordinator&Instructor: Assoc. Prof. Dakrong Pissuwan (Year 2023, semester 2)

Date	Topic	
1. 11 Jan 2024	Introduction/Overview of innovation and Creativity	Assoc. Prof. Dr. Dakrong Pissuwan
2. 18 Jan 2024	Innovation tools: Intellectual property, technology licensing	Assoc. Prof. Dr. Kittitat Subannajui
3. 25 Jan 2024	Patent & literature searching	Assoc. Prof. Dr. Kittitat Subannajui
4. 1 Feb 2024	Innovation concepts, innovation and society, aims of innovation	Assoc. Prof. Dr. Kittitat Subannajui
5. 8 Feb 2024	Ten types of innovation, profit model and network, structure and process of innovation	Assoc. Prof. Dr. Kittitat Subannajui
6. 15 Feb 2024	Bundling biomaterials technologies and life	Assoc. Prof. Dr. Dakrong Pissuwan
7. 22 Feb 2024	Innovation in agriculture	- Invited Speaker Assoc. Prof. Dr. Dakrong Pissuwan
8. 29 Feb 2024	Technology Transfer: From the laboratory bench to commercialization	Assoc. Prof. Dr. Dakrong Pissuwan
Midterm examination 7 March 2024		
9. 14 Mar 2024	Business Canvas	Assoc. Prof. Dr. Dakrong Pissuwan
10. 21 Mar 2024	Innovation in Pharmaceuticals (from GPO) TBC	- Invited Speaker Assoc. Prof. Dr. Dakrong Pissuwan
11. 28 Mar 2024	Student's activity on VDO preparation	Assoc. Prof. Dr. Dakrong Pissuwan
12. 4 Apr 2024	Biological scaffold and hydrogel for tissue engineering	Assoc. Prof. Dr. Dakrong Pissuwan
13. 11 Apr 2024	Communication in Innovation (Bank of Thailand)	- Invited speaker Assoc. Prof. Dr. Dakrong Pissuwan
14. 18 Apr 2024	Innovative Product Presentation	Assoc. Prof. Dr. Dakrong Pissuwan
Final examination 25 Apr 2024		