

SCME 372 Scientific Creativity and Innovation (3 credit)

Academic Year 2024

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

Room: SC1-154

Google Classroom: <https://classroom.google.com/c/NzMzNDc1Mzc0MDQ0?cjc=esy eo7i>

Goole Class Code: esyeo7i

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

Office: K554, Phayathai campus (by appointment)

Instructors:

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

Office: K554, Phayathai campus (by appointment)

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

Office: Salaya 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 (Tuesday 9:00 – 12:00 pm)

Coordinator&Instructor: Assoc.Prof.Dr. Dakrong Pissuwan (Year 2024, semester 2)

Date	Topic	
1. 7 Jan 2025	Introduction/Overview of innovation and Creativity	Assoc.Prof.Dr. Dakrong Pissuwan
2. 14 Jan 2025	Innovation tools: Intellectual property, technology licensing	Assoc.Prof.Dr. Kittitat Subannajui
3. 21 Jan 2025	Patent & literature searching	Assoc.Prof.Dr. Kittitat Subannajui
4. 28 Jan 2025	Innovation concepts, innovation and society, aims of innovation	Assoc.Prof.Dr. Kittitat Subannajui
5. 4 Feb 2025	Ten types of innovation, profit model and network, structure and process of innovation	Assoc.Prof.Dr. Kittitat Subannajui
6. 11 Feb 2025	Bundling biomaterials technologies and life	Assoc.Prof.Dr. Dakrong Pissuwan
7. 18 Feb 2025	Biological scaffold and hydrogel for tissue engineering	Assoc.Prof.Dr. Dakrong Pissuwan
8. 25 Feb 2025	Innovation in Pharmaceuticals (from GPO) TBC	- Invited Speaker Dr.Onsiri Srikun Assoc.Prof.Dr. Dakrong Pissuwan
Midterm examination 4 March 2025		
9. 11 Mar 2025	How innovation is important to industry	- Invited Speaker Dr.Anucha Assoc.Prof.Dr. Dakrong Pissuwan
10. 18 Mar 2025	Communication in Innovation (Bank of Thailand)	- Invited speaker Aj.Atiya Arayapong Assoc.Prof.Dr. Dakrong Pissuwan
11. 25 Mar 2025	Student's activity on VDO preparation KMUTT visit	Assoc.Prof.Dr. Dakrong Pissuwan
12. 1 Apr 2025	Innovation in agriculture	- Invited Speaker Aj.Suthisak Sangtaratip Assoc.Prof.Dr. Dakrong Pissuwan
13. 8 Apr 2025	Technology Transfer: From the laboratory bench to commercialization Business Canvas	Assoc.Prof.Dr. Dakrong Pissuwan
14. 17 Apr 2025	Student's activity on VDO Google Classroom	Assoc.Prof.Dr. Dakrong Pissuwan
15. 22 Apr 2025	Innovative Product Presentation	Assoc.Prof.Dr. Dakrong Pissuwan
Final examination 29 Apr 2025		