**SCME 372 Scientific Creativity and Innovation (3 credit)**

Academic Year 2021

**Class Schedule**: Thurday morning afternoons (9:00 – 12:00)

**Room:** Online

**Google Classroom:**

<https://classroom.google.com/c/NDUwMTgzNzY2NjE1?cjc=zptfouu>

**Class code: zptfouu**

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

Office: K554, Phayathai campus (by appointment)

**Instructors:**

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

Office: K554, Phayathai campus (by appointment)

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

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

Asst. Prof. Toemsak Srikhirin (email: [toemsak.sri@mahidol.ac.th](mailto:toemsak.sri@mahidol.ac.th))

Office: K410, Phayathai campus (by appointment)

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; Pikkel, 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)

|  |  |  |
| --- | --- | --- |
| **Date** | **Topic** | **Instructor** |
| 6 Jan 2022 | Introduction/Overview of innovation and Creativity | Assoc. Prof. Dakrong Pissuwan |
| 13 Jan 2022 | Innovation concepts, innovation and society, aims of innovation | Assoc. Prof.  Kittitat Subannajui |
| 20 Jan 2022 | Ten types of innovation, profit model and network, structure and process of innovation | Assoc. Prof.  Kittitat Subannajui |
| 27 Jan 2022 | Innovation tools: Intellectual property, technology licensing | Assoc. Prof. Toemsak Srikhirin |
| 24 Feb 2022 | Patent & literature searching | Assoc. Prof.  Toemsak Srikhirin |
| 3 Feb 2022 | Bundling biomaterials technologies and life | Assoc. Prof. Dakrong Pissuwan |
| 10 Feb 2022 | Technology Transfer: From the laboratory bench to commercialization | Assoc. Prof. Dakrong Pissuwan |
| 17 Feb 2022 | Innovation in agriculture | Dr. Suthisak Saengtharatip  Assoc. Prof. Dakrong Pissuwa |
|  | **Midterm examination (24 Feb 2022)** |  |
| 3 Mar 2022 | TBA | Invited Speaker  Assoc. Prof. Dakrong Pissuwan |
| 10 Mar 2022 | Business Canvas | Invited Speaker  Assoc. Prof. Dakrong Pissuwan |
| 17 Mar 2022 | Marketing | -Invited speaker  Assoc. Prof. Dakrong Pissuwan |
| 24 Mar 2022 | TBA | -Invited speaker  Assoc. Prof. Dakrong Pissuwan |
| 31 Mar 2022 | TBA | Assoc. Prof. Dakrong Pissuwan |
| 7 Apr 2022 | Communication in Innovation  (Bank of Thailand) | Ms. Atiya Arayaphong  Assoc. Prof. Dakrong Pissuwan |
| 21 Apr 2022  9:00 -12:00 | Innovative Product Presentation | Assoc. Prof. Dakrong Pissuwan |
|  | **Final examination 28 Apr 2022** |  |