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

Academic Year 2020

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

**Room:** ONLINE CLASS

1. Zoom ID **8279976800** for the first class
2. Google Classroom Code: rqwmigb

https://classroom.google.com/c/NTU3NjgyMTkyOTVa?cjc=rqwmigb

**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)

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

Assoc. Prof. Toemsak Srikhirin (email: toemsak.sri@mahidol.ac.th)

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 SCME372** (Thursday 9:00 – 12:00 am)

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| **Date** | **Topic** | **Instructor** |
| 21 Jan 2021 | Introduction/Overview of innovation and Creativity | Assoc. Prof. Dakrong Pissuwan |
| 28 Jan 2021 | Innovation concepts, innovation and society, aims of innovation | Assoc. Prof. Kittitat Subannajui |
| 4 Feb 2021 | Ten types of innovation, profit model and network, structure and process of innovation | Assoc. Prof. Kittitat Subannajui |
| 11 Feb 2021 | Innovation tools: Intellectual property, technology licensing  | Assoc Prof. Toemsak Srikhirin |
| 18 Feb 2021 | Patent & literature searching | Assoc. Prof.Toemsak Srikhirin |
| 25 Feb 2021 | Bundling biomaterials technologies and life | Assoc. Prof. Dakrong Pissuwan |
| 4 Mar 2021 | Technology Transfer: From the laboratory bench to commercialization | Assoc. Prof. Dakrong Pissuwan |
| 11 Mar 2021 | Innovation in agriculture | TBA |
|  | **Midterm examination 16-19 March 2021** |   |
| 18 Mar 2021 | Impact of Scientific Research to Fish Aquature | Dr. Saengchan SenapinAssoc. Prof. Dakrong Pissuwan |
| 25 Mar 2021 | Innovation in NGO | Dr. NorapartAssoc. Prof. Dakrong Pissuwan |
| 1Apr 2021 | Food Innovation  | TBA |
| 8 Apr 2021 | Business Canvas | - Assoc. Prof. Darkrong Pissuwan |
| 22 April 2021 | Communication in Innovation(Bank of Thailand) | Ms. Atitaya Tao- Assoc. Prof. Dakrong Pissuwan |
| 29 April 2021 | Presentation of students | Assoc. Prof. Dakrong Pissuwan |
|  | **Final examination**  |  |